

I CLAIM

1. An instrument insertable in a body cavity for dilating the cavity, comprising:
a support frame having an opening therein and a longitudinal centerline passing therethrough;
at least three blades circumferentially spaced relative to said centerline, each having an elongated section, a second end section and an intermediate section pivotally connected to said frame wherein each blade is pivoted in a plane including said centerline; and
means mounted on said support frame engageable by a section of each blade for holding said each blade at a selected angular displacement.
2. The instrument according to claim 1, wherein said blades rotate between a closed position where the elongated sections of the blades are adjacent each other and an open position where the elongated sections are distant from each other.
3. The instrument according to claim 2, wherein ends of the elongated sections of the blades distal from the frame form a hemisphere when the blades are in the closed position.
4. The instrument according to claim 1, wherein neck sections of the elongated sections adjacent the frame form a conical envelope when the blades are in a closed position and form a cylindrical envelope when the blades are in the open position.

5. The instrument according to claim 1, wherein the blades are hinge coupled to an outer surface of the frame.
6. The instrument according to claim 5, wherein the elongated sections of the blades extend through the opening of the frame.
7. The instrument according to claim 6, wherein the second end sections and the elongated sections of each blade are connected together at a respective hinge coupling to form an acute angle.
8. The instrument according to claim 2, wherein biasing means bias the blades into the closed position.
9. The instrument according to claim 8, wherein the biasing means are springs.
10. The instrument according to claim 1, wherein the locking means comprise a plurality of blocks, each block interacting with a respective second end section of a respective blade to hold the respective blade in the selected position.
11. The instrument according to claim 10, wherein a series of stops on each block prevents a closing movement of the respective blade when each said stop abuts the respective blade.

12. The instrument according to claim 11, wherein each block rotates about an axis perpendicular to the axis of rotation of the respective blade.

13. The instrument according to claim 12, wherein biasing means bias the blocks against the blades.

14. The instrument according to claim 1, wherein the frame has the shape of an octagon.

15. The instrument according to claim 1, wherein the frame is ring shaped.

16. The instrument according to claim 1, wherein the blades have a cross section that is one of the group consisting of a round-shaped, u-shaped, v-shaped or square with rounded corners.

17. An instrument for dilating a body cavity, comprising:

an annular frame having a hollow center and a longitudinal axis passing therethrough,

a plurality of blades pivotally connected to the frame at pivotal connections, each blade having an elongated section extending in a direction generally parallel to the axis and a second section extending in a generally opposite direction, said second and elongated sections meeting at a pivot, said blades spaced apart on the frame to form an envelope between the elongated sections, wherein said blades pivot with respect to each

other between a closed position where the elongated sections are adjacent each other for insertion into the body cavity and an open position where the elongated sections are distant from each other for dilating the body cavity, and

a holding means holds the blades at selected angular positions between the closed position and the open position.

18. The instrument according to claim 17, wherein the holding means comprise blocks each having a series of stops on a surface thereof which contacts a respective second section of a respective blade.

19. The instrument according to claim 18, wherein each of the stops prevents the closing movement of the respective blade when each said stop abuts the respective second section.

20. The instrument according to claim 19, wherein each block rotates about an axis perpendicular to the axis of rotation of the respective blade.

21. The instrument according to claim 20, wherein biasing means bias the blocks against the blades.

22. The instrument according to claim 17, wherein end portions of the elongated sections form a hemisphere when the blades are in the closed position.

23. The instrument according to claim 17, wherein neck sections of the elongated sections adjacent the frame form a cone when the blades are in a closed position and are parallel when the blades are in the open position.

24. The instrument according to claim 23, wherein end portions of the elongated sections form a hemisphere when the blades are in the closed position.

25. The instrument according to claim 24, wherein intermediate portions extending between the end portions and the neck portions of the elongated sections form a generally bulbous end to the instrument when the blades are in the closed position.

26. The instrument according to claim 17, wherein the blades are hinge coupled to an outer circumference of the frame.

27. The instrument according to claim 26, wherein the elongated sections of the blades extend through the center of the frame.

28. The instrument according to claim 27, wherein the second and elongated sections of each blade are connected together at the pivotal connection to form an acute angle.

29. The instrument according to claim 17, wherein biasing means bias the blades into the closed position.

30. The instrument according to claim 29, wherein the biasing means are springs.
31. The instrument according to claim 17, wherein the blades have a cross section that is one of the group consisting of a round-shaped, u-shaped, v-shaped or square with rounded corners.